

## ABSTRACT

A slotted pin tool, a delivery system containing the pin tool, a substrate for use in the system and methods using the pin tool and system are provided. The slotted pin tool contains a plurality of pins having slotted ends designed to fit around each loci of material deposited on a surface, such as a microarray, without contacting any of the deposited material. Sample is delivered by contacting the pin tool with the surface; the amount delivered is proportional to the velocity of the pin tool as it contacts the surface or the velocity of the liquid when movement of the pin is halted.